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DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES



TED SCHWINDEN, GOVERNOR

COGSWELL BUILDING

STATE OF MONTANA

HELENA, MONTANA 59620

DEC 24 1984

December 12, 1984

MONTANA STATE LIBRARY
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HELENA, MONTANA 59620

Re: Preliminary Environmental Review
Scratch Gravel Landfill
Lewis & Clark County

Board of County Commissioners, 316 N. Park Ave., Helena, MT
Will Selser, R.S., City County Health Dept., 316 N. Park Avenue, Helena
Russell Ritter, Mayor, City of Helena, 316 N. Park Ave., Helena
Tom Rippengale, Chmn, Scratch Garvel Landfill Bd, P.O. Box 1724, Helena
Bill Tjaden, 3140 1/2 Howard Road., East Helena
Tom Pearson, DVM, 5000 Green Meadow Drive, Helena
Environmental Quality Council, Capitol Building, Helena
Tom Ellerhoff, Environmental Sciences Division, DHES, Helena
Harold Chambers, State Library, Capitol Complex, Helena

Ladies and Gentlemen:

Pursuant to the Administrative Rules of Montana, 16.2.604, the following Preliminary Environmental Review has been prepared by the Department of Health and Environmental Sciences concerning Scratch Gravel Refuse Disposal District Class II Sanitary Landfill.

The purpose of the Preliminary Environmental Review is to inform all interested governmental agencies, public groups or individuals of the proposed action and to determine whether or not the action may have a significant effect on the human environment. This Preliminary Environmental Review will be circulated for a period of fifteen (15) days at which time a decision will be made as to our future action.

If you care to comment on this proposed action, please do so within the allotted time.

Sincerely,

JOHN C. GEACH
Solid Waste Management Bureau
Environmental Sciences Division

JCG:vc
Encls.

PLATE 19

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
Cogswell Building, Helena, Montana 59601
(406) 444-2821

PRELIMINARY ENVIRONMENTAL REVIEW

Division/Bureau Environmental Sciences Division/Solid Waste Management Bureau
Project or Application Scratch Gravel Landfill License Application
Description of Project The scratch gravel refuse disposal district board of directors has submitted a solid waste management system license application to this department. This landfill is located in the NW $\frac{1}{4}$, Section 12, Township 10N Range 4W approximately 2 miles north of Helena (See enclosed map). This landfill has operated since 1970 and was conditionally licensed in 1981. Since that time the refuse district has conducted an extensive hydrogeological survey of the area and implemented a comprehensive groundwater monitoring program. These actions were required by the department as a condition of further licensing. The department is now considering issuing permanent licensing to this site.

POTENTIAL IMPACT ON PHYSICAL ENVIRONMENT

	Major	Moderate	Minor	None	Unknown	Comments on Attached Pages
1. Terrestrial & aquatic life and habitats			X			X
2. Water quality, quantity and distribution			X			X
3. Geology & soil quality, stability and moisture			X			X
4. Vegetation cover, quantity and quality			X			X
5. Aesthetics			X			X
6. Air quality				X		
7. Unique, endangered, fragile, or limited environmental resources				X		
8. Demands on environmental resources of land, water, air & energy			X			X
9. Historical and archaeological sites				X		

POTENTIAL IMPACTS ON HUMAN ENVIRONMENT

	Major	Moderate	Minor	None	Unknown	Comments on Attached Pages
1. Social structures and mores				X		
2. Cultural uniqueness and diversity				X		
3. Local and state tax base & tax revenue				X		
4. Agricultural or industrial production			X			X
5. Human health				X		
6. Quantity and distribution of community and personal income				X		
7. Access to and quality of recreational and wilderness activities				X		
8. Quantity and distribution of employment			X			X
9. Distribution and density of population and housing				X		
10. Demands for government services			X			X
11. Industrial & commercial activity				X		
12. Demands for energy			X			X
13. Locally adopted environmental plans & goals				X		X
14. Transportation networks & traffic flows				X		X

Other groups or agencies contacted or which may have overlapping jurisdiction Lewis & Clark County Department of Health

Individuals or groups contributing to this PER. _____

Recommendation concerning preparation of EIS No EIS Necessary

PER Prepared by: John C. Geach
JOHN C. GEACH

Date: December 7, 1984

POTENTIAL IMPACT ON PHYSICAL ENVIRONMENT

1. Terrestrial & aquatic life and habitats

Approximately 22 acres of the landfill's original 30 acres have been landfilled to date. The remaining 8 acres contains small native bushes and grasses. This vegetation provides habitat for a limited number of small animals such as ground squirrels, field mice and rabbits. This wildlife will be displaced during the landfilling operations. Due to the abundance of this type of habitat adjoining the landfill, this temporary displacement and minor habitat loss will not be significant.

2. Water quality, quantity and distribution

The landfill has installed six (6) water quality monitoring wells in the immediate vicinity of its boundaries. In addition, nine (9) selected domestic water wells within a one mile radius of the landfill have also been routinely sampled for water quality. Data which have been compiled from over a four year period indicates a nitrate plume emanates from the eastern boundary of the landfill and appears to extend in a north eastern direction. The hydrogeologic firm of David Stiller and Associates in their November 1983 "Hydrologic Investigation of the Scratch Gravel Sanitary Landfill-Lewis & Clark County, Montana" reported, "Water quality sampling indicates no significant off-site groundwater degradation has occurred, although an incipient landfill leachate plume may exist".

On-going groundwater quality analysis is being required by the state DHES on the six on-site wells on a semi annual basis and on three domestic wells down gradient from the landfill annually.

3. Geology & soil quality, stability and moisture

Landfilling of municipal refuse will permanently alter soil quality and stability of the fill area. Slight settling may occur over filled areas, however, no adverse impacts should occur if proper landfilling compaction, covering and grading techniques are employed at the site.

4. Vegetation cover, quantity and quality

Some natural grasses and plants will be disturbed in the fill area during the landfill operation. This vegetation loss should be short term as completed fill areas can be easily re-vegetated with natural or hybrid plant species. Revegetation is recommended to prevent soil erosion and surface water infiltration.

5. Aesthetics

The aesthetics of a landfill site will be slightly altered during the site's operation. The most serious aesthetic impact from a landfill can occur from inadequate litter control. The applicant proposes to use litter fencing and manual paper collection to provide adequate litter control.

In addition, the applicant states non-putrescible Group III wastes located in the eastern portion of the site, in view of Green Meadow Road and several residents, will be completely covered with soil. In the future these wastes will be routinely covered to prevent eyesores and the potential of rodent infestations.



8. Demands on environmental resources of land, water, air & energy
Sanitary landfilling places long term limitations on the future development of the completed landfill property. Due to surface settling and the possibility of methane gas generation from decomposing refuse the property will not be suitable for the construction of conventional buildings. However the property would be suitable for agricultural grazing, non-irrigated farming or recreational development. The applicant proposes to develop the property into a public park upon completion.

POTENTIAL IMPACTS ON HUMAN ENVIRONMENT

4. Agricultural or industrial production
See #8 "Demands on environmental resources" above
8. Quantity and distribution of employment
The landfill project employs two full time and 2 part-time employees and occasional part-time relief workers as needed.
10. Demands for government services
Governmental services will be required on the local and state level for inspectional and administrative services associated with the re-issuance of a solid waste management system license to this landfill.
12. Demands for energy
Gasoline and other petroleum products will be consumed in refuse transportation to the landfill site and in the operation of the equipment needed at the site to properly handle and dispose of refuse.
13. Locally adopted environmental plans and goals
The location of this landfill complies with existing zoning criteria as certified by county zoning officer
14. Transportation networks and traffic flows
Traffic flows on Green Meadow and Franklin Mine Roads have been increased by the presence of the landfill. As the scratch gravel refuse disposal district grows, the increase in traffic along these roads will be slightly increased. This increase should not be proportional with the district's growth since many of the area residents use the services of a private refuse hauler.



LEGEND

1. ROAD
 2. RAILROAD
 3. RIVER
 4. CREEK
 5. LAKE
 6. SWAMP
 7. SAND
 8. GRAVEL
 9. CLAY
 10. SILT
 11. LOESS
 12. ALLUVIUM
 13. GLACIAL
 14. QUARTZITE
 15. GNEISS
 16. GRANITE
 17. DIORITE
 18. ANDESITE
 19. BASALT
 20. LAVA
 21. TUFF
 22. SANDSTONE
 23. LIMESTONE
 24. SHALE
 25. SLATE
 26. SCHIST
 27. GYPSUM
 28. SALTPETER
 29. COPPER
 30. SILVER
 31. GOLD
 32. IRON
 33. COAL
 34. PETROLEUM
 35. URANIUM
 36. RADIUM
 37. POLONIUM
 38. BISMUTH
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